

wavelength-multiplexing means, connected to the encoding means, for converting both said k data and said $(n-k)$ error correction bits to n optical signals having different wavelengths and for wavelength-multiplexing said n optical signals so as to be delivered to the optical transmission line[.]; and
the receiving-end optical transmission device comprising:

wavelength-demultiplexing means for separating the wavelength-multiplexed optical signals from the optical transmission line into n optical signals, each corresponding to one of the different wavelengths[.]; and

decoding means connected to the wavelength-multiplexing means, for generating k error corrected data by correcting error bits using the $(n-k)$ error correction bits contained in said n separated optical signals.

sub C17 5. (AS ONCE AMENDED HEREIN) An optical transmission device, comprising:
encoding means, having k inputs, for forming n data by generating $(n-k)$ error correction bits for k data corresponding to k channels and adding the $(n-k)$ error correction bits to the k data;

phase alignment means for aligning phases of the n data received from the encoding means;

electrical-optical converting means for converting the n data, aligned in phase by the phase alignment means, to n optical signals having different wavelengths; and

wavelength-multiplexing means for multiplexing the n optical signals having the different wavelengths received from the electrical-optical converting means so as to form wavelength-multiplexed signals.

6. (AS ONCE AMENDED HEREIN) An optical transmission device, comprising:
wavelength-demultiplexing means for separating wavelength-multiplexed optical signals having n wavelengths into n optical signals corresponding to the n wavelengths;

optical-electrical converting means, connected to the wavelength-demultiplexing means, for receiving and converting the separated n optical signals corresponding to the n wavelengths into n electrical signals; and

decoding means for performing error correction decoding for k data, contained in the n electrical signals converted by the optical-electrical converting means, using $(n-k)$ error

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correction bits contained in said n electrical signals.

Please ADD the following claims:

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21. (AS NEW HEREIN) An optical transmission system comprising a transmitting-end optical transmission device, a receiving-end optical transmission device and an optical transmission line connecting the transmitting-end and receiving-end optical transmission devices,

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the transmitting-end optical transmission device comprising:

data generating means for aligning phases of a first predetermined number of data on a corresponding number of channels and for adding a second predetermined number of error correction bits to said first predetermined number of data, and

wavelength-multiplexing means, connected to the data generating means, for converting both said first predetermined number of data and said second predetermined number of error correction bits to optical signals having different wavelengths and for wavelength-multiplexing said optical signals so as to be delivered to the optical transmission line; and

the receiving-end optical transmission device comprising:

wavelength-demultiplexing means for separating the wavelength-multiplexed optical signals from the optical transmission line into further optical signals, each corresponding to one of the different wavelengths, and

data regenerating means, connected to the wavelength-multiplexing means, for generating said first predetermined number of data, error corrected by correcting said first predetermined number of further data contained in said further optical signals using said second predetermined number of error correction bits contained in said further optical signals.

22. (AS NEW HEREIN) A transmitting-end optical transmission device in an optical transmission system comprising the transmitting-end optical transmission device, a receiving-end optical transmission device and an optical transmission line connecting the transmitting-end and receiving-end optical transmission devices, comprising:

data generating means for aligning phases of a first predetermined number of data on a corresponding number of channels and for adding a second predetermined number of error correction bits to said first predetermined number of data; and

wavelength-multiplexing means, connected to the data generating means, for converting both said first predetermined number of data and said second predetermined number of error correction bits to optical signals having different wavelengths and for wavelength-multiplexing said optical signals so as to be delivered to the optical transmission line.

23. (AS NEW HEREIN) A receiving-end optical transmission device in an optical transmission system comprising a transmitting-end optical transmission device, the receiving-end optical transmission device and an optical transmission line connecting the transmitting-end and receiving-end optical transmission devices, comprising:

wavelength-demultiplexing means for separating the wavelength-multiplexed optical signals from the optical transmission line into further optical signals, each corresponding to one of the different wavelengths; and

data regenerating means, connected to the wavelength-multiplexing means, for generating said first predetermined number of data, error corrected by correcting said first predetermined number of further data contained in said further optical signals using said second predetermined number of error correction bits contained in said further optical signals.

24. (AS NEW HEREIN) An optical transmission system comprising a transmitting-end optical transmission device, a receiving-end optical transmission device and an optical transmission line connecting the transmitting-end and receiving-end optical transmission devices,

the transmitting-end optical transmission device comprising:

a data generator aligning phases of a first predetermined number of data on a corresponding number of channels and adding a second predetermined number of error correction bits to said first predetermined number of data, and

a wavelength-multiplexor, connected to the data generator, converting both said first predetermined number of data and said second predetermined number of error

correction bits to optical signals having different wavelengths and wavelength-multiplexing said optical signals so as to be delivered to the optical transmission line; and

the receiving-end optical transmission device comprising:

a wavelength-demultiplexor separating the wavelength-multiplexed optical signals from the optical transmission line into further optical signals, each corresponding to one of the different wavelengths, and

a data regenerator, connected to the wavelength-multiplexing means, generating said first predetermined number of data, error corrected by said first predetermined number of further data contained in said further optical signals using said second predetermined number of error correction bits contained in said further optical signals.

25. (AS NEW HEREIN) A transmitting-end optical transmission device in an optical transmission system comprising the transmitting-end optical transmission device, a receiving-end optical transmission device and an optical transmission line connecting the transmitting-end and receiving-end optical transmission devices, comprising:

a data generator aligning phases of a first predetermined number of data on a corresponding number of channels and adding a second predetermined number of error correction bits to said first predetermined number of data; and

a wavelength-multiplexor, connected to the data generator, converting both said first predetermined number of data and said second predetermined number of error correction bits to optical signals having different wavelengths and wavelength-multiplexing said optical signals so as to be delivered to the optical transmission line.

26. (AS NEW HEREIN) A receiving-end optical transmission device in an optical transmission system comprising a transmitting-end optical transmission device, the receiving-end optical transmission device and an optical transmission line connecting the transmitting-end and receiving-end optical transmission devices, comprising:

a wavelength-demultiplexor separating the wavelength-multiplexed optical signals from the optical transmission line into further optical signals, each corresponding to one of the

different wavelengths; and

a data regenerator, connected to the wavelength-multiplexing means, for generating said first predetermined number of data, error corrected by said first predetermined number of further data contained in said further optical signals using said second predetermined number of error correction bits contained in said further optical signals.

27. (AS NEW HEREIN) An optical transmission system wherein wavelength multiplexed optical signals are transmitted over an optical transmission line, as produced by a transmission-end device for such transmission, or, after such transmission, as received by a receiving-end device, wherein:

the transmitted wavelength multiplexed optical signals comprise a first predetermined number of data on a corresponding number of channels having added thereto a second predetermined number of error correction bits and both thereof converted to optical signals of respective, different wavelengths and which are wavelength-multiplexed for such transmission.

28. (AS NEW HEREIN) An optical transmission system as recited in claim 24, wherein the transmission-end device comprises:

a data generator aligning phases of a first predetermined number of data on a corresponding number of channels and adding a second predetermined number of error correction bits to said first predetermined number of data; and

a wavelength-multiplexor, connected to the data generator, converting both said first predetermined number of data and said second predetermined number of error correction bits to optical signals having different wavelengths and wavelength-multiplexing said optical signals so as to be delivered to the optical transmission line.

29. (AS NEW HEREIN) An optical transmission system as recited in claim 24, wherein the transmission-end device comprises:

a wavelength-demultiplexor separating the wavelength-multiplexed optical signals from the optical transmission line into further optical signals, each corresponding to one of the different wavelengths; and